

PATENT COOPERATION TREATY

PCT

**INTERNATIONAL SEARCH REPORT
(PCT Article 18 and Rules 43 and 44)**

Applicant's or agent's file reference 86356-3/ABA	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/CA2004/001466	International filing date (<i>day/month/year</i>) 06 August 2004 (06-08-2004)	(Earliest) Priority date (<i>day/month/year</i>) 08 August 2003 (08-08-2003)
Applicant ULYSSES PHARMACEUTICAL PRODUCTS INC. ET AL		
This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.		
This international search report consists of a total of <u>2</u> sheets.		
<p style="margin-left: 20px;">[X] It is also accompanied by a copy of each prior art document cited in this report.</p>		
<p>1. Basis of the report</p>		
<p>a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.</p> <p style="margin-left: 20px;">[] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).</p>		
<p>b. [] With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.</p>		
<p>2. [X] Certain claims were found unsearchable (See Box II).</p>		
<p>3. [] Unity of invention is lacking (See Box III).</p>		
<p>4. With regard to the title.</p> <p style="margin-left: 20px;">[] the text is approved as submitted by the applicant.</p> <p style="margin-left: 20px;">[X] the text has been established by this Authority to read as follows : Halogenated Quinazolinyl Nitrofurans as Antibacterial Agents</p>		
<p>5. With regard to the abstract.</p> <p style="margin-left: 20px;">[X] the text is approved as submitted by the applicant.</p> <p style="margin-left: 20px;">[] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.</p>		
<p>6. With regard to the drawings.</p>		
<p>a. The figure of the drawings to be published with the abstract is Figure No.</p> <p style="margin-left: 20px;">[] as suggested by the applicant.</p> <p style="margin-left: 20px;">[] As selected by this authority, because the applicant failed to suggest a figure.</p> <p style="margin-left: 20px;">[] As selected by this Authority, because this figure better characterizes the invention.</p>		
<p>b. [X] None of the figures is to be published with the abstract.</p>		

INTERNATIONAL SEARCH REPORTInternational application No.
PCT/CA2004/001466**Box No. I****Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)**

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
 - a. type of material
 - a sequence listing
 - table(s) related to the sequence listing
 - b. format of material
 - in written format
 - in computer readable form
 - c. time of filing/furnishing
 - contained in the international application as filed
 - filed together with the international application in computer readable form
 - furnished subsequently to this Authority for the purposes of search
2. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

INTERNATIONAL SEARCH REPORTInternational application No.
PCT/CA2004/001466**Box No. II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons :

1. Claims Nos. : 29-33
because they relate to subject matter not required to be searched by this Authority; namely:
Although claims 29-33 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. Claims Nos.: 1-5, 9, 11-18 and 26-38 in part
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically :
Claims 1-5, 9, 11-18 and 26-38 lack clarity pursuant to Article 6 for being directed to the desired result rather than to the combination disclosed to achieve that result. The functional term "solubilizing group" in claim 1 is non-limitative and ill-defined in structure. It is uncertain what structural features are supposed to increase solubility. In view of the disclosed examples, the chemical structure search is therefore limited to formula 1.2 of claim 6.
3. Claims Nos. :
because they are dependant claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observation where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows :

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos. :
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos. :

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
 No protest accompanied the payment of additional search fees.

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Box IV

Text of the abstract (Continuation of item 5 of first sheet)

INTERNATIONAL SEARCH REPORTInternational application No.
PCT/CA2004/001466**A. CLASSIFICATION OF SUBJECT MATTER**

IPC7 C07D405/04; C07D405/06; C07D405/14; C07D413/14; C07D417/14; A61K31/395

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 C07D405/00; C07D413/14; C07D417/14; A61K31/395

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base, and, where practicable, search terms used)

Chemical Abstracts: structure search based on formula 1.2 of claim 6

US, WO, EP, CA full-text including OCR: IPC C07D405/, 413/14, 417/14 or A61K31/395 and keywords - nitrofuran plus related terms and antibacterial plus related terms

CA bibliographic data and image - CPC 167/212, 167/215, 167/217 167/218, 260/243, 260/244, 260/245, 260/253 and/or keywords - nitrofuran plus related terms and antibacterial plus related terms

Pluspat: ECLA/IPC C07D405/, 413/14, 417/14 or A61K31/395 and/or keywords - nitrofuran plus related terms and antibacterial plus related terms

MEDLINE: nitrofuran plus related terms and antibacterial plus related terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Zhikhareva G.P. et al, "Synthesis and Study of Antiviral Activity of Substituted 4-(d-diethylamino-a-methylbutylamino)-2-styrylquinazolines", Khimiko-Farmatsevticheskii Zhurnal (1978), 12 (11), 44. Chemical Abstracts: 90:121527	1, 11, 26-28
A	US 3970648 A (DIAMOND SHAMROCK) 20 July 1976 tables A and B, examples I-VI, claims (cited in the application)	1-42
A	US 3973021 A (DIAMOND SHAMROCK) 3 August 1976 tables A and B, examples I-VI (cited in the application)	1-42
A	US 3974277 A (DIAMOND SHAMROCK) 20 August 1976 tables A and B, examples I-VI, claims (cited in the application)	1-42
A	US 3542784 (NORWICH) 24 November 1970 the whole document (cited in the application)	1-42
A	US 3324122 A (NORWICH) 6 June 1967 the whole document	1-42

Further documents are listed in the continuation of Box C.

Patent family members are listed in annex.

• Special categories of cited documents :	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family
Date of the actual completion of the international-type search 12 November 2004 (12-11-2004)	Date of mailing of the international-type search report 17 December 2004 (17-12-2004)
Name and mailing address of the ISA/ <i>Commissioner of Patents Canadian Patent Office - PCT Ottawa/Gatineau K1A 0C9 Facsimile No. 1-819-953-9358</i>	Authorized officer Yong-Huang Chen (819) 956-4113

Form PCT/ISA/210 (second sheet) (January 2004)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CA2004/001466

Patent document cited in search report	Publication Date	Patent family members	Publication Date
US 3970648 A	20-07-1976	US 3973021 A US 3974277 A	03-08-1976 20-08-1976
US 3973021 A	03-08-1976	US 3970648 A US 3974277 A	20-07-1976 20-08-1976
US 3974277 A	20-08-1976	US 3970648 A US 3973021 A	20-07-1976 03-08-1976
US 3542784 A	24-11-1970	AT 284829B B BE 729298 A CH 507979 A DE 1909522 A1 DK 117566B B ES 363881 A1 FR 2005591 A5 GB 1168430 A IE 32904L L IL 31322 A NL 6904849 A NO 122373B B SE 357367 B	25-09-1970 03-09-1969 31-05-1971 30-10-1969 11-05-1970 01-01-1971 12-12-1969 22-10-1969 05-10-1969 30-05-1972 07-10-1969 21-06-1971 25-06-1973
US 3324122 A	06 -06- 1967	AT 255424B B BE 672504 A BR 6575667D D0 CH 448110 A DE 1620076 A1 DK 117902B B FR1460221 A GB 1101179 A GB 1101180 A IL-24359 A NL 6513634 A NO 118066B B SE 325579 B	16-03-1966 06-09-1973 15-12-1967 12-02-1970 15-06-1970 17-06-1966 31-01-1968 31-01-1968 29-01-1969 15-06-1966 03-11-1969 07-07-1970